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## AI BASED – ASSISTED SEARCH FOR MISSING PERSON

**Hemadharshini S<sup>1</sup>, Bheena Dhevi V<sup>2</sup>, Bama Devi M<sup>3</sup>, Mrs.C. Sathya<sup>4</sup>**

<sup>1,2,3</sup>UG – Computer Science Engineering, PSNA college of Engineering and Technology, Dindigul, Tamilnadu

<sup>4</sup>Assistant Professor, PSNA college of Engineering and Technology, Dindigul, Tamilnadu

Author Orchid ID: <https://orcid.org/0009-0007-2240-3408>

### ABSTRACT

Face recognition is a biometric-based technology that mathematically maps a particular person's or individual's facial features and stores all that data as a face print. By using this technique, the information on the face of a person is saved mathematically or in the format of graphs in the database, which is used for detecting that particular face. The face recognition model in our system will find a match of that person in the database. If a match is found, it will be notified to the police and the guardian of that person. In this paper, we will use the ideas of the AWS facial recognition algorithm which is based on Artificial Intelligence (AI) and will detect faces with the maximum accuracy to find the missing person.

**Keywords -- Amazon Web Services (AWS) Face recognition, Amazon S3 bucket, AWS Lambda indexer, Face Recognition, missing person, Recognition.**

### 1. Introduction

In the world, countless people are missing every day which includes kids, teens, the mentally challenged, old-aged people with Alzheimer's, etc. Most of them remain untraced. This paper proposes a system that would help the police and the public by accelerating the process of searching using face recognition.

Face recognition techniques can be used for many things and finding the missing person is the biggest advantage of any face recognition technique. To make the task of finding the missing person easier we are planning to make an application that will be accessed by some volunteers through which we can find the missing person in a short span of time. This will make the work of the police to find a particular person easier.

Meanwhile, there is a need for automation for automating the task of finding a particular person by recognizing a particular image and comparing that image with another image in order to check whether both images have the same characteristics or not. By doing this we will come to know whether the missing person in the image clicked from a particular location is correct or not, and if it is correct then the police can start their next steps to find the person from that area.

In our application, there will be the feature of saving all the data of the missing person so that system can detect that image data and trace the missing person.

#### 1.2 Motivation

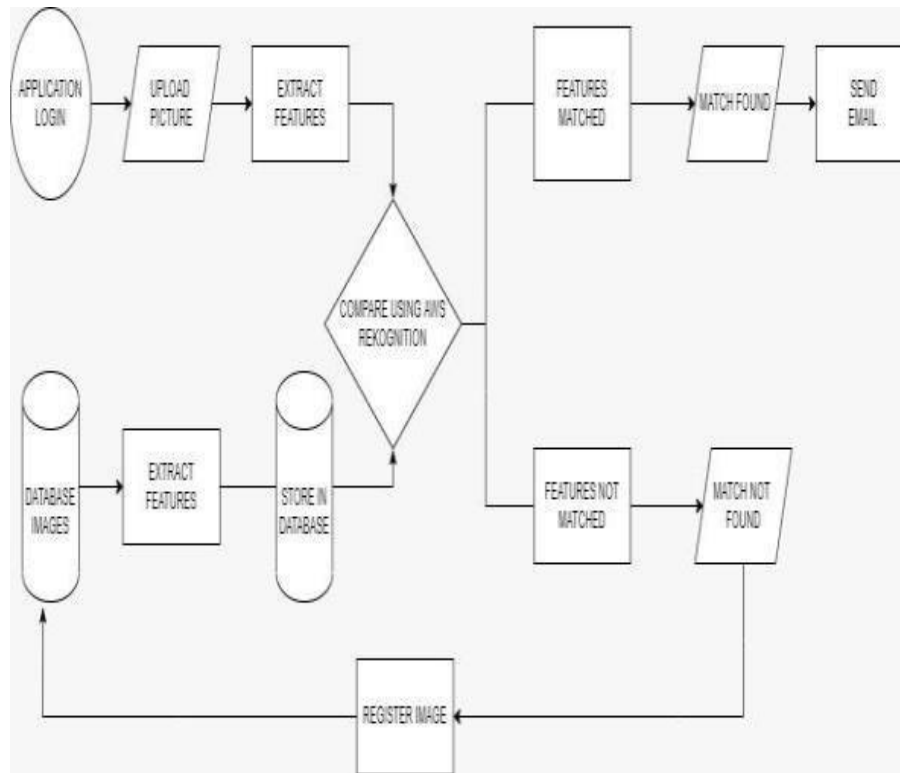
Physically it takes a huge time, as it is a lengthy procedure for finding a missing person as it increases the time to launch an FIR in the police station. Also during the handy process workforce for searching for a missed person is not so great and due to this half of the cases remain mysterious.

An alarming fact about India's missing children is that 296 children go missing every day on average. And every month, that is a disturbing number of 9,019, half of them remain untraceable.

Shockingly, when India was dealing with the Covid-19 pandemic in 2020, the total number of children missing across India was 1,08,234, according to the National Crime Records Bureau data. 33,456 girls were reported missing and 15,410 boys were missing, and 43,661 of them remained untraceable till the end of the year.

However, the statistics are indicative of the absence of a national Missing Children's repository. "There are no budgets earmarked for tracking missing people," said an official source.

## 2. Experimental Methods or Methodology



Overall System is to prevail over the drawbacks of previous systems. We are building a system that existing systems were not having. We plan to add concepts regarding how the interface ought for adding new complaints and how to register the new case.

The face recognition model in our system will try to find a match in the database with the help of AWS rekognition. It is performed by comparing the face encodings of the uploaded image to the face encodings of the images in the database. If a match is found, it will be notified to the police and the people related to that person along with the location of where the person is found.

The proposed system contains the following Modules:

Volunteer Module:

- Volunteer Registration/ Login (Using E-mail ID, Mobile Number, Password, etc.)
- Filling in the details such as the location, age of the suspected missing person and then upload the image of a suspected missing person.

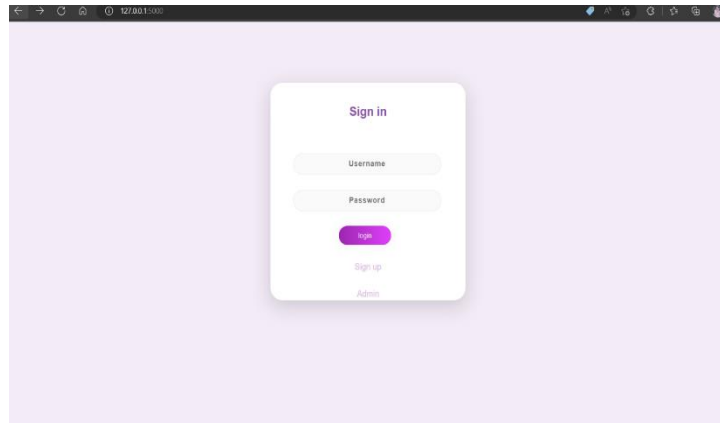
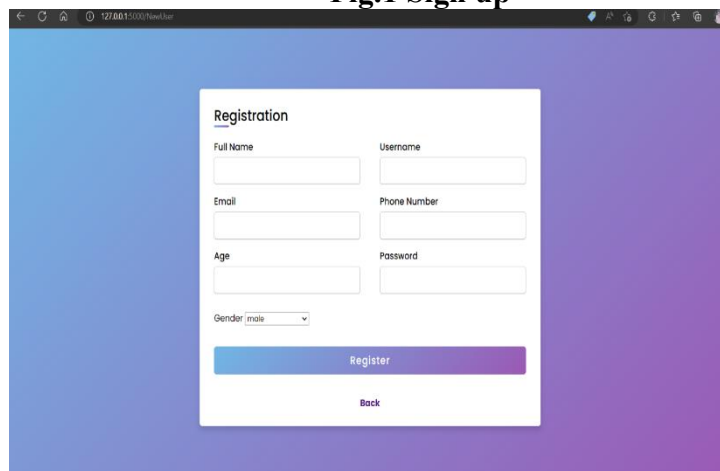
Police / Authority Module:

- Police/ Authority Login (Using Email ID, Mobile Number, Password)
- Registering Complaints about the missing person.
- Uploading the image and other details of the missing person (eg. Name, Age, Sex, Living Location).
- Search the uploaded image with a stored database, if found then give the result as match found and also send an email to the user if not then store it as a new entry.
- Inform via e-mail the respective authority when a match is found with AWS Recognition.

## 3.Results and Discussion

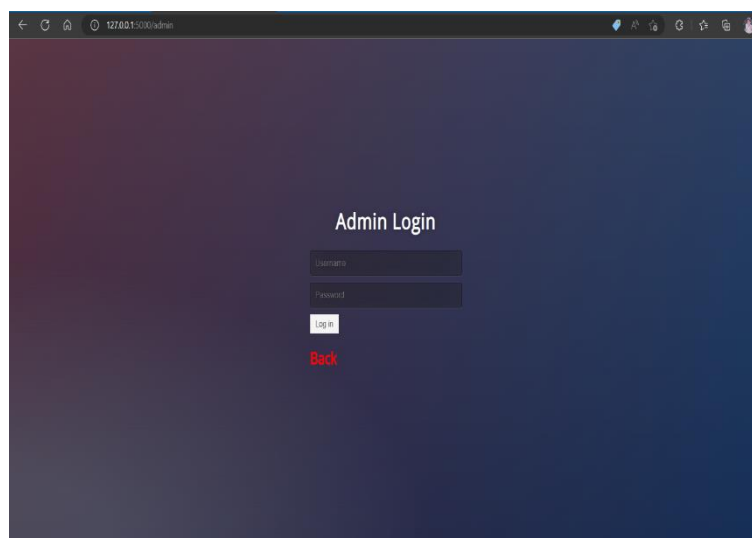
### 3.1 New user and Registration

The User (Relation/third person who finds the suspect) will be able to sign up as they are new to the page is shown in Fig.1. In that page, they will be able to fill their own details like their name, contact number, mail. So, they will be able to receive mail regarding to the missing person is shown in Fig.2.

**Fig.1 Sign up****Fig.2 Registration**

### 3.2 Admin sign in

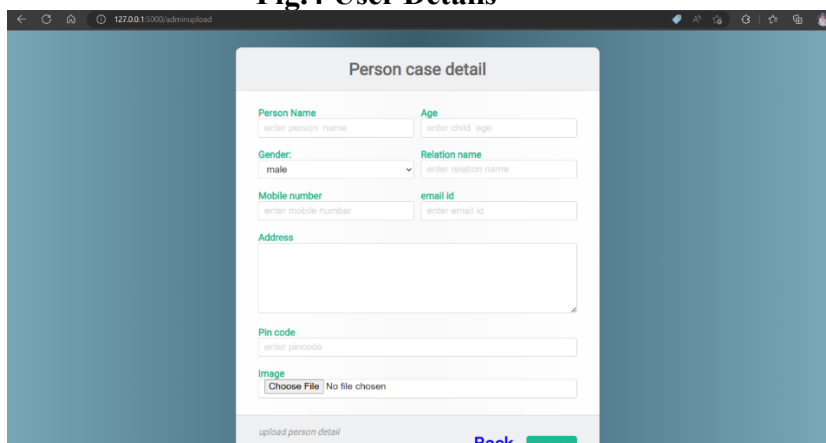
In this, the admin(police) will be able to log in and upload the details given by the missing person's relatives as shown in Fig.5. while uploading they will upload a recently taken photo. So that it will be easy to find the missing one.

**Fig.3 Admin login**

User Details				
Name	Gender	Age	Email	Mobile
dhanya	female	21	huanan71@gmail.com	888369976
bana	female	21	indianbavi@gmail.com	9597117291
Devi	female	21	indianbavi@gmail.com	9597117291

[upload](#)  
[Case detail](#)  
[Back](#)

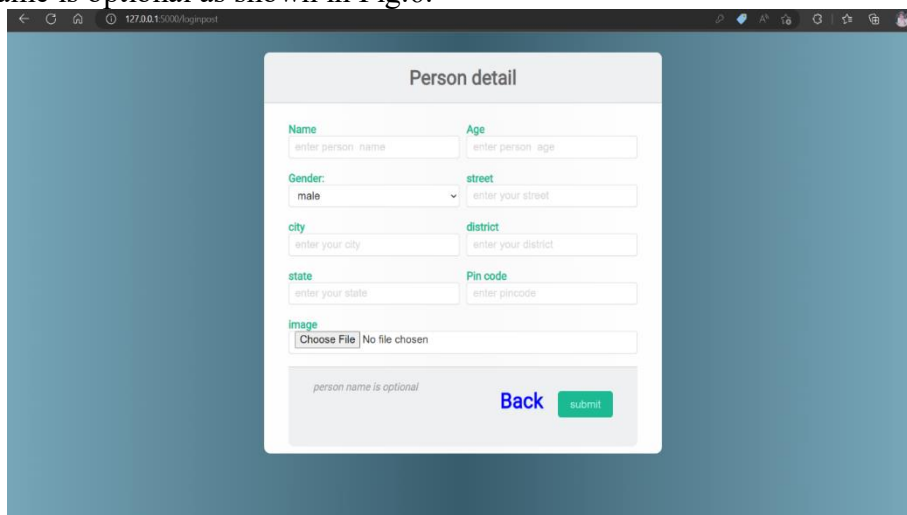
**Fig.4 User Details**



**Fig.5 Case Details**

### 3.3 Informant

The Informant who finds the missing person as a suspect will be uploading a picture of that person in that person's name is optional as shown in Fig.6.



**Fig.6 Informant data entry**

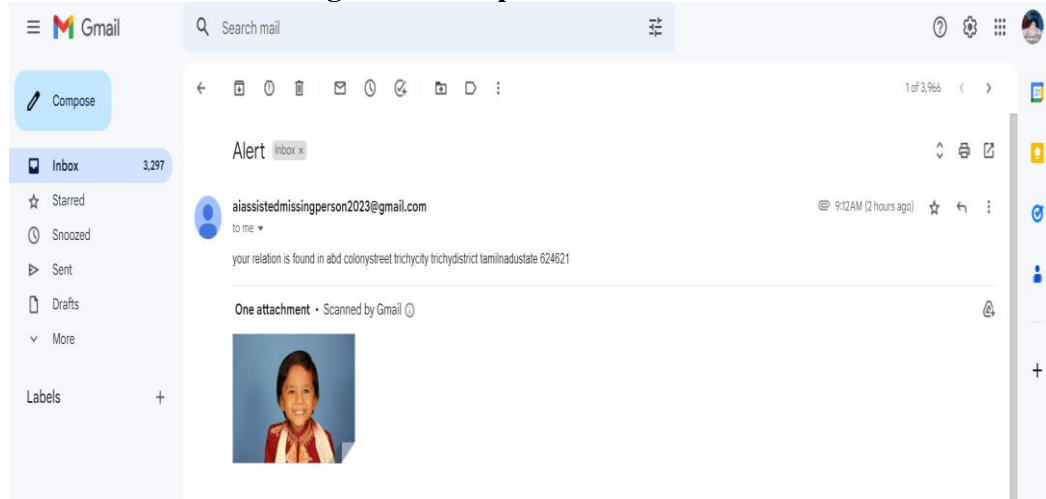
### 3.4 Mail

If the data and image uploaded by the admin and informant are matched with the help of face recognition as shown in Fig.7. Mail will be sent to the relative's mail id so that it will be easy to track the missing person as shown in Fig.8.



Name	parent	photo	email	status
lingi	Dharshini	static/casedetail/DSC_575	hemadhar71@gmail.com	Match
lingesh	bama	static/casedetail/images (	indianbavi@gmail.com	Not match
ajith	devi	static/casedetail/images (	indianbavi@gmail.com	Not match
ajith	bama	static/casedetail/images (	indianbavi@gmail.com	Not match
hema	dharshu	static/casedetail/DSC_415	hemadharshini32@gmail.com	Not match
lingi	dharshini	static/casedetail/DSC_575	hemadhar71@gmail.com	Match
bama	dharshini	static/casedetail/irandu.jp	hemadhar71@gmail.com	Match
bama	dharshini	static/casedetail/irandu.jp	hemadhar71@gmail.com	Match

**Fig.7 Admin Uploaded Case Details**



**Fig.8 Mail Received by Relative**

## CONCLUSION

Image recognition with the use of one-shot learning has become very powerful. This technology when put into good use, can be beneficial. It can even be used in Hotels, Hospitals, etc., to find criminals instantly.

Process of identifying the missing people is fastened. Our system replaces the manual scanning process through the databases for each picture to check the match, with an efficient face recognition method that finishes the work in no time.

In the future, we are planning to extend this system further by connecting our system to public cameras and detecting faces In real-time. The frames will be continuously sent by the public cameras to our system where our system will be continually monitoring the frames. When a lost person is identified in any of the frames, it will notify the concerned authorities, the method that finishes the work in no time.

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